Basic Components in SAM

- **Client:** A process that has data packets to send.

- **Sequencer:** Serialize data packets sent to the group

- **Commit Server:** Store the ordering information for each data packet.

- **Data Server:** Store data packets.

- **Checkpoint Server:**
  - Do message consolidation.

Note: *Logical concept only.*

Assumptions: *Unique Process ID*
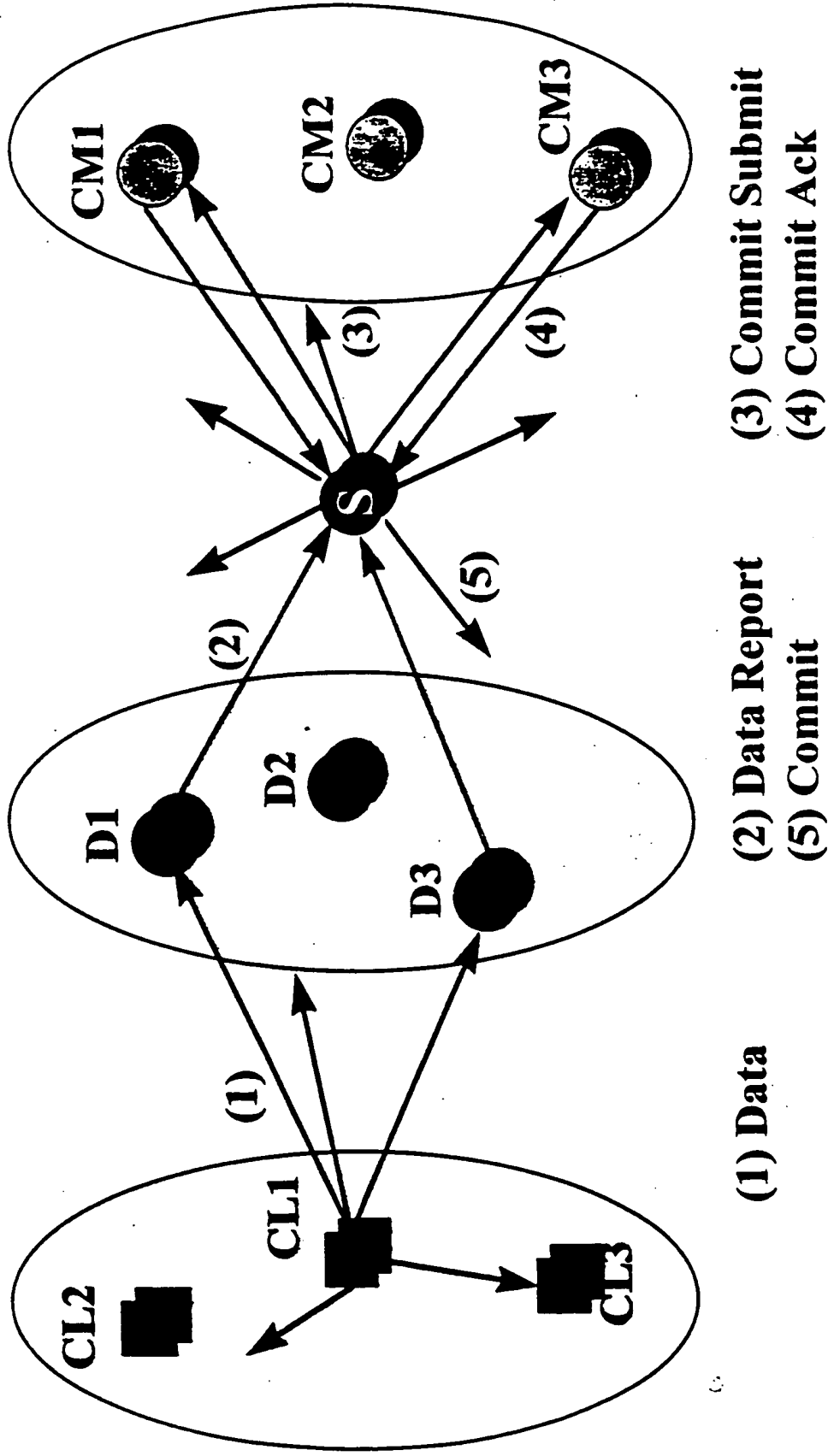   *Unique Data Packet ID (e.g. Process ID + seq)*

CL   S   CM   D   CH

FIG 2(c.) internal

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Sending a Data Packet in SAM

(1) Data   (2) Data Report   (3) Commit Submit
              (5) Commit   (4) Commit Ack

Fig. 1(b) (in-bound)

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Asynchronous Communication AND Total Ordering?

- Deliver pkts in order of commit number (continuous!)

- If a pkt is missing, get its pkt ID from *commit servers*, then get the pkt from *data servers*.

- Guaranteed atomicity and total ordering! No need to get response from other clients.
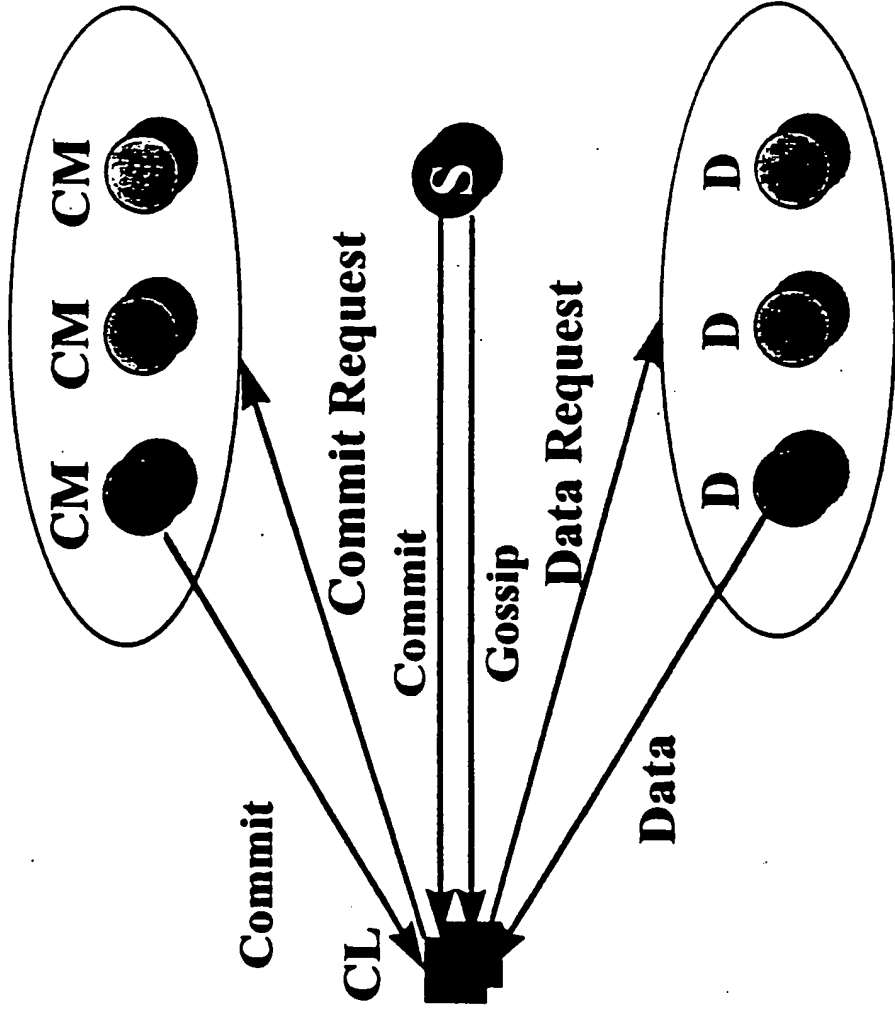
CM CM CM

S

D D D

Commit

Commit Request

Commit

Gossip

Data Request

Data

CL

FIG 2 (informal)